REMARKS

This paper is responsive to the Office Action dated January 22, 2008 (the "Office Action").

Claims 1-117, 119, 121, 122, and 124-126 are pending.

Claims 1-7, 14, 16, 17, 29-35, 42, 44, 45, 57-63, 70, 72, 73, 85-91, 98, 100, 101, 114-117, 119, and 124 stand rejected.

Claims 8-13, 15, 18-28, 36-41, 43, 46-56, 64-69, 71, 74-84, 92-97, 99, 102-112, 121, and 122 are under objection.

Claim 113 has been allowed.

Rejection of claims under 35 U.S.C. § 112, first paragraph

Claim 126 stands rejected under § 112, first paragraph as purportedly failing to comply with the written description requirement of § 112, first paragraph. In particular, the Office Action expresses a concern that the Specification fails to describe the claim limitation of initiating a subsequent failure measure if a response to a resource request is not received within a predefined time.

Applicant respectfully submits that the subject matter in question is fully disclosed in the Specification as originally filed. For example, claim 9 in Applicant's originally filed Specification teaches the specific failure measure of "generating a network alarm" if a resource response packet is not received within a predefined threshold time.

Rejection of claims under 35 U.S.C. § 112, second paragraph

Claim 126 stands rejected under § 112, second paragraph as purportedly being indefinite. In particular, the Office Action expresses a concern regarding antecedent basis.

Claim 126 has been amended to address a clerical error. Applicant respectfully submits that, as amended, claim 126 is allowable under § 112, second paragraph.

Rejection of Claims under 35 U.S.C. § 103

Claims 1-3, 29-31, 57-59, 85-87, 114-117, 119, and 124 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,282,170 issued to Bentall et al. ("Bentall"), in view of U.S. Patent No. 5,130,974 issued to Kawamura et al. ("Kawamura"). Claims 4-7, 14, 16, 32-35, 42, 44, 60-63, 70, 72, 88-91, 98, and 100 stand rejected under § 103(a) as being unpatentable over Bentall in view of Kawamura, and further in view of U.S. Patent No. 6,728,205 issued to Finn, et al. ("Finn"). Claims 17, 45, 73, and 101 stand rejected under § 103(a) as being unpatentable over Bentall and Kawamura in view of Finn and further in view of U.S. Patent No. 6,430,150 issued to Azuma, et al. ("Azuma"). Claim 125 stands rejected under § 103(a) as being unpatentable over Bentall in view of Kawamura. Claim 126 stands rejected under § 103(a) as being unpatentable over Bentall in view of Kawamura, and further in view of U.S. Patent No. 4,287,592 issued to Paulish, et al. ("Paulish").

Applicant respectfully submits that the claims are allowable under § 103(a) because a person having ordinary skill in the art would not make the proposed combination of references, and because the cited portions of the references fail to disclose each limitation of Applicant's claims.

More specifically, the cited portions of Kawamura do not disclose what the Office Action asserts as being disclosed. Further, if the Office Action's characterizations of Kawamura and Bentall are correct (a point which Applicant does not concede), then a person having ordinary skill in the art would not combine the references as suggested by the Office Action.

The cited passages fail to disclose each limitation of Applicant's claims.

Applicant's claim 1 includes receiving information from a candidate node, with the information indicating that the candidate node has sufficient resources to support a virtual path. This limitation is not disclosed in the cited portions of the references.

With regard to this limitation, the Office Action on p. 3 turns to Kawamura. Kawamura discloses tools for reconfiguring a network topology in the event of a line fault. See Kawamura at 1:7-14. Kawamura's network includes active "regular" routes and also has several "spare" routes. *Id.* at Abstract. In the event of a line fault the system is reconfigured to use a spare route instead of the faulty route. *Id.* at 1: 34-38.

FIG. 7C of Kawamura, reproduced below, shows an example of a network with a failure ("X") on a regular route 16 and the enlisting of alternate spare route 21 to redirect traffic around the failure. One of the nodes adjacent to the failure, node 12, sends a request code "R" to an adjacent node 13. *Id.* at 6:14-18. The connecting route between these two nodes is named route 21. It turns out that, prior to the failure, route 21 was designated as one of the spare or alternate routes. *Id.* at 3:19-23. This status of route 21 as a spare route is determinative of what Kawamura's system then does in response to the request code "R":

> On receiving this request code on a spare control channel, node 13 makes an affirmative decision in step 44 and exits to step 63 to return a grant code to node 12 (FIG. 7C).

Id. at 6:18-22 (emphasis added).

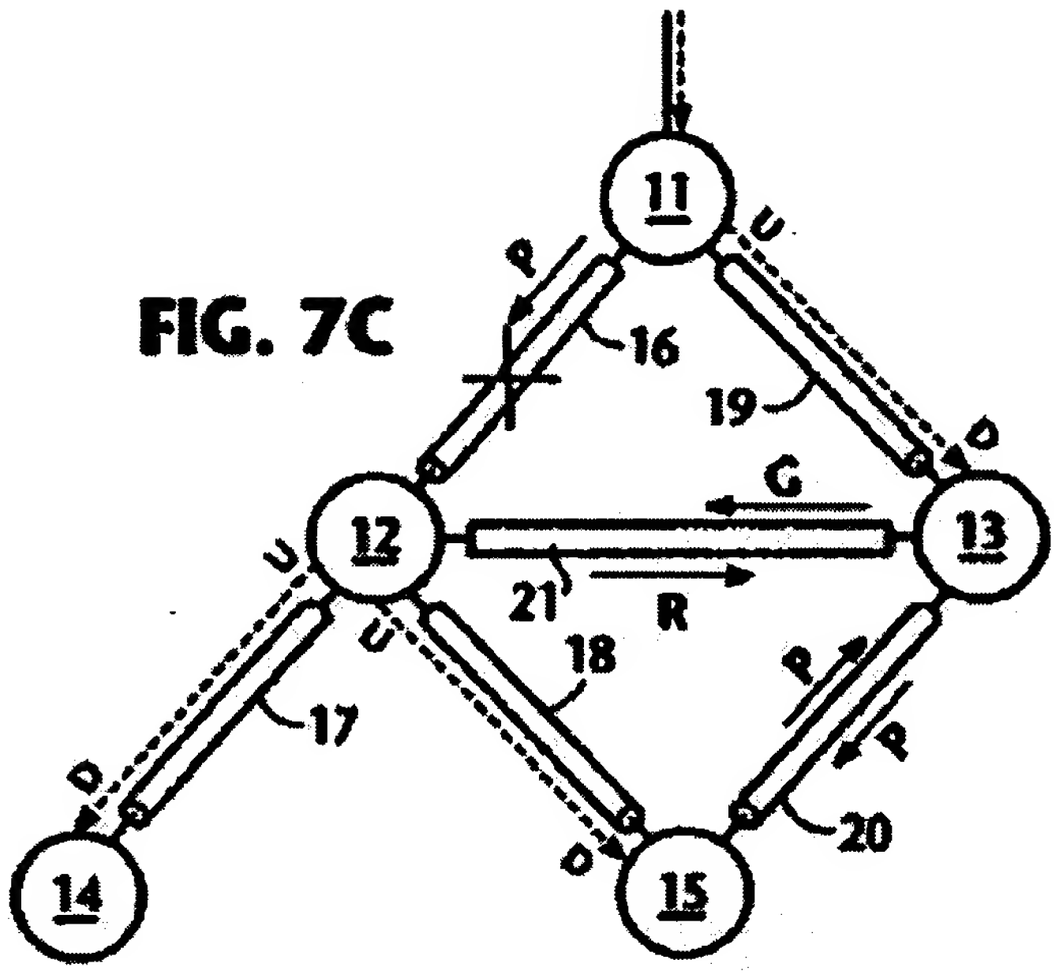

FIG. 7C of Kawamura

Kawamura makes clear that the decision to return a grant code is based on the nature of the channel through which the request code was received. The details of this decision are set forth in the procedure shown in FIGs. 6A and 6B. Block 44 of FIG. 6B is a yes/no determination of whether the granting node received the request code "on a spare channel." *Id*. at 5:64-65. If the request code was received on a spare channel in block 44, then the flowchart in FIG. 6B dictates that the grant code should be returned in block 63. A similar decision and result is described in the example of FIG. 8c, where traffic is rerouted onto spare channel 20 after a failure of channel 21. Again, the decision is based on the status of the channel on which the request code was received: since that channel was a "spare" control channel, Kawamura responds to the request by issuing a grant code to redirect traffic onto that channel. *See id*. at 6:47-52.

Kawamura describes two other conditions where a grant code is generated. *Id.* at 5:64—6:13. These decisions are also based on the status of the channel on which the request code was received: the grant code may be transmitted if the request code received either "at an upstream end of a regular control channel (case 2)," or "at a downstream end of a regular control channel (case 3)." *Id.*

The cited passages of Kawamura, however, do not disclose that the decision to return a grant code is made based on any requirement of the communications to be transmitted through the granting node. Also, the cited passages of Kawamura do not disclose that this decision is made based on the status of the granting node 13.

In contrast, Applicant's independent claim 1 includes an act of receiving information. The claim language requires that the information is received from a candidate node, and that the information indicates that the "candidate node has sufficient resources" to support a virtual path.

The Office Action appears to view Kawamura's grant code as being similar to the information received in Applicant's claim 1, and appears to view the granting node as being similar to the candidate node in Applicant's claim 1. Even if these characterizations of Kawamura are correct (and Applicant does not concede this point), the grant code in Kawamura is not described as containing any particular information. Rather, it is a status indicator that communicates the result of yes/no decisions such as shown in block 44 of Kawamura's FIG. 6B. These decisions are based on the type of channel through which a request message was received. Thus, at best, the Kawamura's grant code affirms that the topology of the network allows for some connectivity around a failure. Kawamura's grant code does not indicate that this connectivity is "sufficient" for a particular virtual path.

If Kawamura's granting node has only a limited bandwidth available for rerouting, this limit is not communicated in the grant code. If the granting node does not have enough bandwidth to meet the requirements of the data streams to be rerouted, then this shortcoming is also not communicated in the grant code. The cited passages provide no teaching or suggestion that the granting node conveys information that it has "sufficient resources" for a particular virtual path.

Accordingly, the cited passages fail to disclose the limitation of "receiving, from a candidate node, information indicating that said candidate node has sufficient resources to support said virtual path." At least for this reason, independent claim 1 and all claims dependent therefrom are allowable under § 103(a). At least for similar reasons, independent claims 29, 57, and 85 and all claims dependent therefrom are also allowable under § 103(a).

A skilled artisan would not combine the references as proposed by the Office Action.

The rejection of Applicant's claim 1 relies on a combination of Bentall with Kawamura. The Office Action proposes on p. 4 that:

> It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Bentall with the teaching of Kawamura to implement the process of checking capacity of link at each node by transmitting request message so that a given virtual path would be re-established through an alternate route with sufficient bandwidth.

(Office Action at 3.)

Applicant respectfully disagrees with this conclusion. First, Applicant notes that this combination of Bentall with Kawamura is relevant only if, as proposed in the Office Action, Kawamura discloses the limitation of "receiving, from a candidate node, information indicating

that said candidate node has sufficient resources to support said virtual path." As noted above, Applicant disagrees with this proposition. Moreover, the rudimentary topology/connectivity analysis in Kawamura could not, and would not, be viewed by a person having ordinary skill in the art as the Office Action's proposed "checking capacity of link at each node" to find "an alternate route with sufficient bandwidth."

Applicant further notes that a person having ordinary skill in the art would not combine the teachings of Bentall and Kawamura, because Bentall does not require and would not even benefit from indications of sufficient resources from candidate nodes (even if Kawamura could possibly be seen as having such indications). In Bentall, a determination of routes with "sufficient capacity for the path" is made not by candidate nodes, but by a chooser node that is located at one end point of a failed link (Bentall at 1:56-59). Operations of the Bentall chooser node are described in the following excerpt:

> The chooser node receives floods of search messages from the sender via tandem nodes, at step 140. The flooding instance of messages searches out all spare capacity between the sender and chooser, but does not assign any capacity to a specific path, unlike previous methods. At step 141, the chooser node builds a database of the possible alternative routes, including at least the hop counts of each route, the spare capacity of each link on the route, and other parameters which may assist in enabling the chooser to select the most appropriate alternative route for each virtual path affected by the failed link. To restore the affected virtual paths, the chooser can begin assigning capacity as soon as the first complete path arrives. Assignment depends on the particular assignment algorithm used. Various types of assignment algorithm are conceivable, with differing results in terms of efficiency of use of the spare capacity. A simple FCFS (First Come First Served) algorithm simply assigns virtual paths to spare capacity in a random fashion as soon as the capacity is identified by receipt of flood messages from the sender.
>
> The chooser acknowledges the shortest route for each path with sufficient capacity for the path, by sending a message back to the sender, at step 142 of FIG. 9. The database of alternative

> routes can be amended to reflect the reduced spare capacity available for other virtual paths, at step 143. The chooser continues through its list of affected virtual paths, until all have been restored, or until all remaining virtual paths are blocked by a lack of spare capacity on alternative routes, as shown at step 144.

(Bentall at 7:61—8:22, emphasis added).

Bentall's chooser node is therefore equipped to select alternative routes for each virtual path affected by a failed link. This operation involves identifying shortest routes that have sufficient capacity for each path. Thus, the Bentall system does not need candidate nodes to make indications of sufficient resources; this determination is made by the chooser node, which aggregates information on various alternative routes and "select[s] the most appropriate alternative route for each virtual path." The Bentall system operates adequately, and would not benefit from this determination being made by other nodes—especially since these other nodes would not have the full set of information that is received by the chooser node. Thus, even if Kawamura could be seen as disclosing the "receiving, from a candidate node, information indicating that said candidate node has sufficient resources to support said virtual path" (again, a point with which Applicant disagrees), this feature would not be useful or even usable in Bentall.

Moreover, Applicant notes that the proposed combination of Kawamura and Bentall would certainly not be helpful to achieve the goal proposed in the Office Action. The Office Action proposes on p. 3 that the teachings of Kawamura could be used to modify the system of Bentall "to implement the process of checking capacity of link at each computing node by transmitting request message." The goal would be "so that a given virtual path would be re-established through an alternate route with sufficient bandwidth." However the Bentall chooser already identifies alternate routes with sufficient capacity for various paths, as discussed above and as set forth in Bentall at 8:14-16. Thus, Bentall does not need the teachings of Kawamura to

achieve this goal. A person having ordinary skill in the art would not modify Bentall to achieve a goal that is already achieved by the teachings of Bentall itself. Thus, even this particular goal set forth in the Office Action would not lead to a combination of the cited references.

Applicant submits that for these reasons a person having ordinary skill in the art would not make the proposed combination of Bentall and Kawamura. At least for this additional reason, independent claim 1 and all claims dependent therefrom are additionally allowable under § 103(a). At least for similar reasons, independent claims 29, 57, and 85 and all claims dependent therefrom are also additionally allowable under § 103(a).

CONCLUSION

In view of the amendments and remarks set forth herein, the application and the claims therein are believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned.

If any extensions of time under 37 C.F.R. § 1.136 are required in order for this submission to be considered timely, Applicant hereby petitions for such extensions. Applicant also hereby authorizes that any fees due for such extensions or any other fee associated with this submission, as specified in 37 C.F.R. § 1.16 or § 1.17, be charged to deposit account 502306.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, Virginia, 22313-1450, on April 22, 2008.

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